

### **AMENDMENTS TO THE CLAIMS**

The following is a copy of Applicants' claims that identifies language being added with underlining ("\_\_\_") and language being deleted with strikethrough ("—") or double strikethrough ("=="), as is applicable:

1. (Currently Amended) A system for automatically discovering nodes on a network comprising:

~~a~~ an announcer logic configured to transmit a first ~~a~~ announcement packet to all known nodes having a static type in a list of known nodes, the first announcement packet comprising a node address and a forward counter associated with each known node in the ~~a~~ list, ~~to all nodes in the list having a static type~~, if the forward counter is having a corresponding forward count greater than zero, the forward counter initialized from the corresponding forward count;

~~a~~ a listener logic configured to receive a second ~~the~~ announcement packet comprising a node address and a forward counter, the listener logic further configured to add to the list of known nodes ~~at least one new node~~, having a received node having a discovered type, the received node associated with the node address and a corresponding forward count defined by the decremented forward counter ~~counter corresponding to the announcement packet~~, wherein ~~the new node has a discovered type~~; and

~~a~~ a forwarder logic configured to transmit a third announcement packet to all known nodes in the list of known nodes when the forward count associated with the received node is greater than zero, the third announcement packet comprising the node address associated with the received node and a the forward counter initialized from the forward count corresponding to associated with the received new node, ~~to all known nodes in the list~~, if the forward counter is ~~greater than zero~~.

2. (Previously Presented) The system of claim 1, wherein the announcer logic is further configured to transmit the node address and the forward counter using a unicast address.
3. (Currently Amended) The system of claim 1, wherein the forward counter of the second announcement packet is decremented upon receipt.
4. (Currently Amended) The system of claim 1, wherein the forward counter of the second announcement packet is the decremented before transmission.
5. (Previously Presented) The system of claim 1, further comprising a network interface configured to transmit and receive data on the network.
6. (Currently Amended) The system of claim 5, wherein the announcer logic is further configured to transmit the first announcement packet ~~node address and the forward counter~~ via the network interface.
7. (Previously Presented) The system of claim 1, wherein the node address is an IP address.
8. (Previously Presented) The system of claim 1, wherein the announcement packet is an ICMP packet with type Echo Request.

9. (Currently Amended) A method for automatically discovering nodes on a network comprising:

initializing a first known node list;

transmitting a first announcement packet to all known nodes in the first list ~~a first announcement packet~~, the first announcement packet comprising a node address and a forward counter associated with each known node, ~~if the forward counter is~~ having a corresponding forward count greater than zero, the forward counter initialized from the corresponding forward count;

receiving from the network a second announcement packet, the second announcement packet comprising a node address and a forward counter associated with a discovered node;

adding to a second list of discovered nodes ~~the at least one new~~ discovered node, where the discovered node ~~comprises a node address and~~ is associated with a forward count defined by the decremented forward counter corresponding to the announcement packet; and

transmitting a third announcement packet to all known nodes in the first list and all discovered nodes in the second list when the forward count associated with the discovered node is greater than zero, the third announcement packet comprising the node address associated with the discovered node and a the forward counter initialized from the forward count associated with the discovered node ~~associated with each known node if the forward counter is greater than zero~~.

10. (Previously Presented) The method of claim 9, wherein transmitting onto the network to all known nodes further comprises transmitting the network node address and the forward counter using a unicast address.

11. (Previously Presented) The method of claim 9, wherein transmitting onto the network to all known nodes and all discovered nodes further comprises transmitting the node address and the forward counter using a unicast address.

12. (Currently Amended) The method of claim 9, wherein transmitting an announcement packet to all known nodes, ~~a node address and a forward counter associated with each known node~~ further comprises decrementing the forward counter before transmission.
13. (Currently Amended) The method of claim 9, further comprising:
  - detecting an unreachable node;
  - deleting from the second list, responsive to the detecting the unreachable node, each node with a discovery source matching the unreachable node; and
  - announcing, to each node in the first and second lists, the deletion of each deleted node.
14. (Currently Amended) The method of claim 9 ~~42~~, further comprising:
  - receiving a deletion announcement, wherein the deletion announcement comprises at least one node to be deleted; and
  - deleting from the second list, responsive to the receiving the deletion announcement, each node corresponding to the node to be deleted.
15. (Currently Amended) The method of claim 14 ~~43~~, further comprising forwarding, to each node in the first and second lists, the at least one node to be deleted.

16. (Currently Amended) A system for automatically discovering nodes on a network comprising:

a list of static nodes, wherein each static node comprises a node address and a corresponding forward count counter;

~~a~~ an announcer logic configured to transmit to all static nodes the node address of each static node in the list having a corresponding forward count greater than zero and ~~the a corresponding forward counter initialized from the corresponding forward count associated with each static node in the list, if the forward counter is greater than zero, to all static nodes~~;

a list of discovered nodes, wherein each discovered node comprises a node address and a corresponding forward count counter;

~~a~~ a listener logic configured to receive an announcement packet comprising, ~~where the announcement packet comprises~~ at least one node address and at least one corresponding forward counter, the listener logic further configured to add to the list of discovered nodes at least one ~~new~~ discovered node comprising corresponding to the at least one node address and a corresponding forward count defined by the decremented at least one corresponding forward counter of the announcement packet; and

~~a~~ a forwarder logic configured to transmit to all static nodes and to all discovered nodes, via the network ~~interface~~ interface, the node address of the at least one discovered node and ~~the a corresponding forward counter initialized from the corresponding forward count associated with the new discovered node, if when the corresponding forward count counter is greater than zero, to all known nodes and to all discovered nodes.~~

17. (Currently Amended) The system of claim 16, wherein the announcer logic is further configured to transmit the node address and the corresponding forward counter using a unicast address.

18. (Currently Amended) The system of claim 16, wherein the forwarder logic is further configured to transmit the node address and the corresponding forward counter using a unicast address.
19. (Currently Amended) The system of claim 16, wherein the corresponding forward counter of the announcement packet is decremented upon receipt.
20. (Currently Amended) The system of claim 16, wherein the corresponding forward counter of the announcement packet is decremented before transmission.
21. (Previously Presented) The system of claim 16, further comprising a network interface configured to transmit and receive data on the network.
22. (Currently Amended) The system of claim 21, wherein the announcer logic is further configured to transmit the node address and the corresponding forward counter via the network interface.
23. (Currently Amended) The system of claim 21, wherein the forwarder logic is further configured to transmit the node address and the corresponding forward counter via the network interface.
24. (Previously Presented) The system of claim 21, wherein the listener logic is further configured to receive the announcement packet via the network interface.
25. (Previously Presented) The system of claim 16, wherein the node address is an IP address.
26. (Previously Presented) The system of claim 16, wherein the announcement packet is an ICMP packet with type Echo Request.

27. (New) A system for automatically discovering nodes on a network comprising:
- means for initializing a first known node list;
  - means for transmitting a first announcement packet to all known nodes in the first list, the first announcement packet comprising a node address and a forward counter associated with each known node having a corresponding forward count greater than zero, the forward counter initialized from the corresponding forward count;
  - means for receiving from the network a second announcement packet, the second announcement packet comprising a node address and a forward counter associated with a discovered node;
  - means for adding to a second list of discovered nodes the discovered node, where the discovered node is associated with a forward count defined by the decremented forward counter; and
  - means for transmitting a third announcement packet to all known nodes in the first list and all discovered nodes in the second list when the forward count associated with the discovered node is greater than zero, the third announcement packet comprising the node address associated with the discovered node and a forward counter initialized from the forward count associated with the discovered node.
28. (New) The system of claim 27, wherein means for transmitting further comprises means for decrementing the forward counter before transmission.
29. (New) The system of claim 27, wherein means for receiving further comprises means for decrementing the forward counter upon receipt.

30. (New) The system of claim 27, further comprising:
- means for detecting an unreachable node;
  - means for deleting from the second list, responsive to detecting the unreachable node, each node with a discovery source matching the unreachable node; and
  - means for announcing, to each node in the first and second lists, the deletion of each deleted node.
31. (New) The system of claim 27, further comprising:
- means for receiving a deletion announcement, wherein the deletion announcement comprises at least one node to be deleted; and
  - means for deleting from the second list, responsive to receiving the deletion announcement, each node corresponding to the node to be deleted.
32. (New) The system of claim 31, further comprising means for forwarding, to each node in the first and second lists, the at least one node to be deleted.
33. (New) The system of claim 27, further comprising means for interfacing with a network to transmit and receive data.